Please insert the following Abstract:

A system and method for treating an aqueous effluent having organic material. The system comprises a single cell reactor having an injector for injecting an oxidizing gas into the reactor. Disposed downstream from the injector is an immersed membrane filtration device for filtering the effluent contained or passing through the reactor. Disposed between the membrane filtration device and the injector for directing an oxidizing gas into the reactor, is a bed of catalyst material. Preferably the oxidizing gas injector injects an oxidizing gas in a direction counter to the direction of the effluent being treated. The bed of catalyst material is capable of catalyzing the oxidation of the organic material in the effluent or absorbing the organic material.